

### Abstract of the Disclosure

A transmission system is disclosed that has small circuit scale and small memory capacity, and moreover, in which higher-layer protocol data are transmitted with little transmission delay. A sending device converts the higher-layer protocol data to continuous blocks of a fixed length that is ideal for frames on the transmission path. The sending device next matches the sending rate to the transmission rate of the transmission path by inserting idle blocks between blocks and then transmits. Relay devices receive the blocks and idle blocks from the sending device, and discard the idle blocks to extract the valid blocks. The relay devices further match the sending rate to the transmission rate of the transmission path on the transmission side by inserting idle blocks between the valid blocks and transmit the blocks to a prescribed transfer destination. A receiving device receives the blocks and idle blocks from the final-stage relay device and then discards the idle blocks to extract only the valid blocks. The receiving device finally reconstructs the higher-layer protocol data from the valid blocks.